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ABSTRACT

From a practical, eclectic, and teacher-centered vantage point, this paper reviews previous attempts to classify curriculum development processes, proposes an analytic schema for examing such processes, and explicates an alternative process which has been found to be effective in working with teachers. First, critical distinctions are drawn between three distinct levels of curriculum work: a program of studies, a field of study, and a course of study. Next, previous systems for classifying curricular processes and products are reviewed, to show how these systems are conceptually flawed. To compensate for these deficiencies, an open-ended system is proposed that includes all the important process elements, and that emphasizes description and analysis, rather than evaluation. This is followed by a description of a naturalistic alternative system for developing curricula that seemed to show promise in preliminary trials. This is first compared to the standard technological model; then the steps of the process are described in sequential order. Finally, the development of a high school course in career planning is used to illustrate the process. (TE)

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# ALTERNATIVE PROCESSES IN CURRICULUM DEVELOPMENT

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(Paper presented at annual meeting of the American Educational Research Association, San Francisco, April 1986.)

In a recent work, Walker and Soltis (1986) reach the somewhat dismaying conclusion that all attempts to design alternative processes of curriculum development simply result in thinly disguised versions of the Tyler rationale. They arrived at that disheartening conclusion after analyzing several such attempts. And others, including Tanner and Tanner (1980) have reached the same conclusion. However, despite the weight of such authoritative support, I would like to challenge the conclusion for two reasons. First, I believe that there are alternative processes that have been advanced by theorists and used by practitioners. And it seems professionally unproductive to ignore the distinctions that set them apart from the Tyler process. The second reason is that I think practitioners can benefit from alternative processes, and I would not want to discourage creative people by telling them that they can only reinvent the wheel.

In identifying and explicating such alternative processes, I should first make clear my own bases. First, I am chiefly concerned with the practical, not the theoretical, even though I realize the two are closely linked. I share Connelly and Elbaz's (1980) belief that "...the conceptual basis of our thought must serve the improvement of curriculum practice, not simply the understanding of it" (p. 99). I am therefore centrally concerned with the improvement of practice and would hope that the ideas here can be translated into more effective practice. Second, I espouse an unabashed eclecticism, concurring with Schwab's (1971) belief that any single theory, regardless of its quality, is of necessity radically incomplete and when used alone can lead to an uncreative tunnel vision. I draw from whatever sources seem useful, hoping that the results reflect the best I have borrowed. Finally, I strongly support the teacher's role as a "thinking, deliberative agent oriented toward action," to echo the sentiments of Connelly and Elbaz (p. 109). Teachers are curriculum makers, and the chief focus of my current work is to help them become more reflective and insightful in that role.

From this practical, eclectic, and teacher-centered vantage point, I want in this paper to accomplish three related tasks: to review previous attempts to classify curriculum development processes; to propose an analytic schema for examining such processes; and to explicate an alternative process of my own which I have found to be generally effective in working with teachers.

## Some Preliminary Distinctions

Before beginning these tasks, it would be useful to make some critical distinctions between the levels and nature of curriculum work--distinctions which for the most part seem to be ignored by many others in the field. Consider first the levels of curriculum work. As

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I argue in a forthcoming work, curriculum practitioners are engaged in three distinct levels of curriculum work, which I term a program of studies, a field of study, and a course of study. A program of studies, as I use the term, delineates all the organized learning experiences provided for a given group of learners over a multi-year period. Thus, we inquire about a program of studies when we ask questions like the following: What should we require for a high school diplom. What courses shall we offer in our new baccalaureate nursing program? What required courses and electives shall we offer in our new middle school? As suggested by the above questions, most program of studies seem to encompass a three-to-four year time span, and deal with more general issues of educational goals, course, requirements, time allocations, and curriculum coordination--how courses taken concurrently relate to each other.

A field of study, as the term is used here, includes all the organized learning experiences in a given discipline over a multi-year period. We inquire about a field of study when we ask questions like the following: What courses in the field of anthropology should be offered to anthropology majors? What essential skills and concepts should be taught in our elementary science program? What is the optimal scope and sequence for English language arts, K-12? Although school practitioners tend to think of fields of study from a K-12 perspective, it is possible, obviously, to deal with shorter periods of time. Thus, I am currently working with a school district that wants to improve its high school English program, hoping that the rest of the field--from grades 1 to 8-will somehow fall into place.

Those who re-design fields of study also operate at a somewhat general level, concerned primarily with the terminal goals of that discipline, the scope of the discipline, the sequencing of important skills and concepts, and curriculum articulation--how 10th grade English relates to 9th and 11th grade English.

A course of study, as I define it, includes all the organized learning experiences provided for a group of learners in a given field of study for a period of one year or less. Thus, "10th grade English," "Microbiology I," and "3rd grade social studies" are all courses of study. While year-long and semester courses seem to be the norm, there was in the early 1970²s much use of so-called "mini-courses" that lasted from three to twelve weeks.

Those who develop courses operate at a more specific level, concerned essentially with course and unit objectives, the organization and sequencing of units of study, and the design of appropriate teaching/-learning activities.

Now I believe that this delineation of the levels of curriculum work is more than an interesting theoretical exercise. For I have found in my work in and with schools that the processes for determining a program of studies are quite different from those involved in developing a course of study.

The second type of distinction I would make at the outset is between developing and improving curricula. I use the term "develop" to mean the processes of designing new programs, fields, and courses--beginning with a clean slate to fashion something new. I use the term "improve" to connote an incremental process of refining and strengthening existing programs, fields, and courses. My experiences in working with school systems suggest that, from the schools' perspective, improvement is the more important process, although most curriculum texts focus solely on development. For the purposes of this paper, it seems more useful first of all to focus on the course, not the program or the field; an analysis of those other two levels can wait for some other occasion. And although for practitioners improvement seems more salient than development, the processes used in development seem more interesting from a theoretical vantage point.

## A Review of Previous Classification Systems

Over the past two decades when curriculum theory seems to have reached its maturity as a systematic field of inquiry, there have been several attempts to develop conceptual systems for classifying curricular processes and products. (See, for example, the following: Eisner and Vallance, 1974; Schiro, 1978; Gay, 1980).

As I have reviewed most of these classification systems, they seem to be flawed conceptually, confabulating three distinct matters. Most give predominant weight in their categorizations to what I call the shaping factors--those factors which strongly influence the decision-making processes of curriculum workers. Thus, some curriculum developers seem most sensitive to the needs of the society, either in being maintained or transformed. Some are most influenced by the needs of the learner, either to develop cognitive skills or to achieve self-realization. And some obviously are chiefly influenced by their conceptualization of that discipline. These--and other influences--I call shaping factors.

Second, these classification systems also attempt to deal with the espoused values of the developers, especially as they relate to the quality of the society, the purpose of schooling, and the nature of the child. In general most of those who are write about their espoused values might be identified as either conservative, liberal, or radical in their orientations, although such labels are, of course, often misleading. And I should note that I do not use any of these terms as pejoratives or honorifics. Thus, as I read them, most "reconceptualists" are radical in their attitudes towards the society, the purpose of schooling, and their concept of the fully functioning individual. Some reconceptualists seem more influenced by society as a shaping factor; and some, the needs of the child.

Finally, these categorization schemes seem to give only scant attention to the type of curriculum development process advocated by the theorist under consideration. Most suggest that there is some correspondence between the predominant shaping factors and the type of process espoused, although I am not so persuaded. Thus, one of Gay's (1980) "conceptual models of the curriculum planning process" is what

she terms "the experiential model." As I read her description of this model, it essentially gives predominant weight to the needs of the child as a shaping factor, is vaguely liberal in its orientation, and emphasizes a planning process that she describes by such terms as organic, evolving, situational, inquiry-centered. But we really are not told much in detail here about the specifics of the planning process.

Thus, if we are asking about alternative planning models, we will have to turn to sources other than these widely known classification schemes. One source that offers some promise is Edmund Short's (1983) paper, "The Forms and Use of Alternative Development Strategies." His work is a recent one that seems to build upon previous efforts; it reflects a comprehensive knowledge of both the prescriptive and descriptive literature; and it seems to offer the greatest promise for analyzing and generating alternative systems.

Short's article has two explicit goals: to analyze what is known about the forms and use of alternative strategies of curriculum development and to organize this knowledge in a way that permits one to assess the policy implications of choosing and using one or the other of these strategies. To accomplish these goals, he first identifies what he considers to be the four "key variables" in the process: the seat of curriculum development; the participants and their qualifications; the attention paid to the realities of the intended use-setting; and the value principles and assumptions of the participants. However, since he believes that objective criteria can be established only for the first three "technical" dimensions and not for the fourth axiological one, he uses only site, participants, and degree of adaptation in designing a three-dimensional analytic matrix. For each of these key variables he identifies two or more categories. Thus, in his formulation, there are two categories of "seats"--generic and site-specific. For the variable of participant expertise required, there are four: scholar-dominated; curriculum-specialist-dominated; milieus expert-dominated; and balance-coordinated pattern. For the variable of realities of setting-use, he posits three categories: implementation as directed; limited adaptation; and open adaptation. While he notes that this 2x4x3 matrix logically yields twenty-four types of strategies, he selects only three for close analysis. And for each he identifies the salient features derived from an analysis of case studies of that type.

Type I he calls "Generic/Scholar-Dominated/implementation as Directed," the strategy chiefly used by the developers of the federally funded "alphabet" projects of the 1960's. One of the "typical features" he notes is this one: "succeeds in generating, in the schools that adopt the curriculum produced, only selectively and/or partially implemented versions of the intended curriculum--a consequence of issuing substantive directives for implementation without possessing the authority to compel compliance or sanction modifications, and of lacking on-site personnel to assist in making local adjustments necessary for accommodating the curriculum" (p. 51).

His Type II strategy he calls "Generic/Milieus-Expert-Dominated/-Limited Adaptation," a strategy he believes is dominated by the perspective of experts in the social and cultural milieus within which

education takes place, "especially...those experts knowledgeable about certain educationally neglected segments of society for whom curriculum policy makers have authorized special programs," (p. 52) such as those for the handicapped or the non-English proficient. One of the typical features of this strategy is this one: "runs into difficult-to-resolve accountability, ethical, or policy problems when schools that accept funds for implementation from the generic program source use them to adapt the program beyond expected limits" (p. 53).

The Type III strategy is "Site-Specific/Balance-Coordinated Pattern/Open Adaptation", a cooperative, site-based strategy that reflects significant involvement of users. One of its typical features is this one: "takes long periods of time to accomplish a given development effort; it is difficult to sustain the necessary level of involvement until completion; settlement of some tough issues and conflicts between national and local values may be deferred to the parochial interests for lack of time for adequate resolution" (p. 57).

He then sets up ten criteria for evaluating these strategies. Although he is not explicit as to how those criteria have been derived, he seems to rely upon the recommendations of curriculum experts, noting that "analysts of accumulated experience with various strategies have derived a number of criteria that corroborate one another" (p. 55). Thus, one of his criteria is this one: "it will be a strategy that gives the leading role of keeping the curriculum development process on task, and of facilitating the work of all participants in the process, to a trained specialist in curriculum development who is fully knowledgeable about what issues must be addressed and what technically useful forms decisions should take" (p. 56).

By applying those ten criteria to the three strategies previously explicated, he then determines that the Type II strategy is best.

Now there is much here that deserves our serious attention. He demonstrates a comprehensive knowledge of the literature; for each type and criterion he cites serveral sources. And he attempts to reason inductively from the numerous case studies he obviously knows well.

However, there are some serious flaws that mar this attempt to classify and evaluate strategies. One of the basic problems is his selection of the "key variables." We are not told how these variables were selected; and the ones chosen do not seem to be those that most critically impact upon the process. Evidence of this serious omission is that only one of the thirteen "typical features" noted for the Type I strategy refers even obliquely to an element of process, as I use the term: "follows a process of trial use, feedback, and refinement, until the curriculum is reasonably perfect before it is released for general use" (p. 50).

The second serious problem is with his evaluation process. Early in the article he notes the difficulty in making such assessments: "No particular set of procedures has been demonstrated to be more adequate for the task than any other" (p. 48). And he rejects the criterion of the effect of the curriculum on student achievement, arguing that the

success of the curriculum in terms of such effects does not imply anything at all about the superiority of the process. In effect he seems to be arguing that a process that followed the recommendations of experts and produced a curriculum that had no measurable impact on student achievement would somehow be more desirable than one that ignored such recommendations and produced the intended results. Or to put it more simply, it's like the manager congratulating the hitter: "You had a wonderful swing--it doesn't matter that you struck out."

## A Proposed System

It would seem more useful to both scholars and practitioners to develop a descriptive system that would have the following characteristics: it would include all the process elements that the research would suggest are important, thus enabling curriculum researchers to make useful distinctions between sets of recommended and implemented processes; it would be open-ended in form, thus enabling practitioners to become aware of a comprehensive set of alternatives; and it would emphasize description and analysis, not evaluation, enabling both scholars and practitioners to reach their independent conclusions about desirability.

The set of descriptors presented in Figure 1 represent an initial attempt to formulate such an analytic system. Certain caveats should be noted here. First, the descriptors have been drawn from my preliminary analysis of the literature and my own experience, but that analysis has not at this point been completely systematic and rigorous. Second, while I have had some initial success in using it to discriminate between development strategies that on the surface seem quite similar, it needs much more extensive testing and refinement. It is thus presented here as an initial formulation that invites criticism and improvement.

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/Insert Figure 1 about here./

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I might note here that the descriptors in Figure 1 are worded so that they can be applied to prescriptions for curriculum development--publications like Tyler's (1950) and my own (1980) that tell curriculum workers how they should develop curricula. With minor changes in wording, those same descriptors could be used to analyze more descriptively the processes used by groups as they design curricula.

The first descriptor focuses on the participants in the process. As Short indicates, their competence and their perspective are so important that we need to have such information. The second descriptor is concerned with the general tenor of the discussions. A monologic discussion is one in which only one person participates or makes decisions, such as a college instructor developing a new course independently. In a participatory discussion, one individual clearly is in control but makes a genuine effort to solicit the input of others. A dialogic discussion is one in which there is much open discussion in an attempt to achieve consensus on key issues.

I use the term "shaping factors," the third descriptor, to identify those elements which influence curriculum decision-making, even though they may not be explicitly referred to in the final document. As Figure 2 indicates, there are several factors that variously impact upon curriculum decisions. Thus, nursing educators I observed develop courses seemed most conscious of the requirements of accrediting bodies. On the other hand, teachers in a large urban district with whom I consulted seemed chiefly concerned about what I term "accountability procedures."

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/Insert Figure 2 about here./

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The fourth descriptor is concerned with the starting point for the substantive deliberations. As Figure 3 indicates, there are in my own formulation several curricular elements, any one of which might conceivably be a starting point. The obvious intent here is to challenge the conventional wisdom that curriculum development must begin with a clear statement of objectives. And the fifth descriptor is concerned with those elements emphasized and the sequence in which they are dealt.

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/Insert Figure 3 about here./

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The sixth descriptor focuses on what I term the organizing structures of the course--the structural elements that give the course shape. I include here four structural components: the general structure and movement of the course itself, the units, the lessons, and the lesson components.

The seventh descriptor examines the progression of the discussion. A linear progression would move sequentially from element to element or structure to structure; a recursive discussion would move back and forth in some systematic fashion. Item 8 asks the researcher to be sensitive to the curricular images and metaphors that seem to influence the process. Does the developer seem to conceptualize a curriculum as a mosaic or a patchwork quilt, as a journey or series of travel experiences, as a set of steps moving from the basement to the top floor? The obvious point, of course, is that such images and metaphors reveal the pervasive belief systems of the developers with respect to that field of study--and such belief systems profoundly but subtly influence their decision making.

The ninth descriptor examines the type of problem-solving process at work. For contrary to what some deliberative theorists assert, I maintain that all curriculum making is a type of problem solving. As I have reviewed the process literature, I have been able to identify four types of problem-solving processes recommended by theorists: technological; rational; intuitive; and negotiating. A technological approach to curriculum problem solving, as I read that literature, argues for a tightly controlled process assessing needs, deriving goals from those needs, performing a task analysis to identify learning objectives, determining the sequential or hierarchical relationship

among the objectives, specifying instructional activities, and identifying evaluation procedures.

A rational approach to curriculum problem-solving, as I use the term, describes the somewhat looser but still logical approach advocated by Schwab and others: deliberators collect and examine pertinent data, formulate the curriculum problem, generate alternative solutions, and evaluate those solutions in order to determine which is best.

In an intuitive approach, participants are encouraged to rely upon their intuition and tacit knowledge, like Schon's (1983) "reflective practitioners" who make wise choices but cannot explain how they make those choices. And in some processes, the problem-solving is more like a negotiating exchange in which bargaining and trading and making compromises seem to be the predominant activities.

Descriptor ten examines the decisions about the form and content of the final product. Again there might be much variation here. For example, in my own work in English language arts (1980), I have recommended that the final product should be a looseleaf notebook which contains only a summary of pertinent research and a list of the required and testable objectives. Teachers using the notebook thus have much latitude in how they organize the objectives and which methods and materials they use.

Descriptors 11 and 12 are concerned with the future--what plans are made for implementing and for testing the product. The next descriptor examines the criteria that the participants seem chiefly to rely upon in assessing the quality of their work, and the last examines the extent to which the process is sensitive to the political aspects of curriculum work.

If such an analytic system is at all valid, then it suggests, of course, that the Tyler rationale is not the only system for developing curricula; in fact, in an initial trial I have been able to use the system to analyze the significant differences between several distinct models of curriculum development. I show in Figure 4 how the descriptors were used to analyze Doll's (1986) process and In Figure 5 how they describe my own "naturalistic" process.

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/Insert Figures 4 and 5 about here./

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## One Alternative System for Developing Curricula

My interest in helping teachers become more reflective curriculum workers has led me over the past few years to develop and test an alternative system that in preliminary trials seems to be moderately effective. Two sources have strongly influenced my thinking here. The first is the writing of John Dewey, who throughout his work stressed the importance of the quality of the learning experience. Such an emphasis on the quality of the learning encounter seems to be a needed corrective for the present obsession with quantity. As others have noted, too many of the reform reports seem to be obsessed with quantity-more time on task, more years of science, more hours of homework. It is time for us

educators to ask, "Time on what task?" We must be concerned with quality.

The second source that has influenced my thinking about curricula is a growing body of literature on how teachers make instructional decisions. (See, for example, Doyle, 1986; Lieberman and Miller, 1984; and Shavelson and Stern, 1981.) The general picture that emerges from the research is this one:

Teachers find themselves in a very complex and potentially unstable world called the classroom. It is a place of almost incipient chaos: thirty children or adolescents with very different needs have the power to create disruption and disorder. The teacher's primary concerns are to reduce complexity, increase predictability, and maintain control. To achieve those related goals, the teacher uses planning processes that are characterized by the following features: the plans made in September become routines used throughout the year; the plans focus on activities, not objectives; some of those activities are clearly designed to give the teacher some respite from the taxing demands of active involvement with their pupils; to a critical observer, those activities often seem neither to challenge nor interest the pupils.

Thus, as Doyle (1986) observes, the teacher's concern for management drives the curriculum: highly complex curricula are inevitably reduced to predictable routines. The challenge for curriculum workers, as I see it, is how to make incremental improvements in the quality of the learning experiences while still understanding the teacher's need to get through the day without being totally drained.

The alternative system is designed to accomplish that difficult task. In describing the naturalistic model, three observations might be noted here. First, I will from time to time compare it with the standard technological model. Second, the steps in the process are described in the order in which they ordinarily would be taken, although other sequences could just as well be followed. In fact, the process has been conceptualized as an interactive and recursive one, in which flexibility is emphasized. Finally, in the discussion that follows, I use the example of the development of a new course for high school students in career planning, although the process could work equally as well with any course, at any grade level--from first grade through college.

## Stake Out the Territory

If it appears that a new course is needed, the first step is to assemble a planning team and then stake out the territory. The planning team should be composed primarily of teachers, with perhaps some assistance from a curriculum specialist. In all their planning sessions they should attempt to achieve a sense of dialogic openness to each other's ideas, a climate in which they recognize that there are few best answers about curriculum and that all ideas deserve a fair hearing.

In staking out the territory, the planning team considers the students for whom the course is intended, make some initial

determinations about the schedule, and tentatively identify the coverage of the course. By consulting with those in authority, by examining whatever data are readily available, and by reflecting about the perceived need for the course, the team determines some tentative answers to the following questions:

1. For which group of students is the course primarily intended? What grade levels will be included? What ability levels?
2. Will the course be elective or required?
3. What is the probable duration of the course--a marking period, a term, a year?
4. What weekly schedule at this stage seems most desirable--how many times a week should classes meet, how long should each class meeting be?
5. What are the general course outcomes? What general concepts and skills do we hope to develop?
6. How will the new course relate to existing courses in the school's program of studies? Is it part of an proposed sequence of courses? Is it intended to relate closely to the content of other courses?

In order to assist in further development, the course territory should be described in a course prospectus. The course prospectus presents the answers to the questions listed above--and does so in a manner that will both guide planners and inform others. In the case of the career course, the prospectus might read as follows:

> We're thinking about offering a new course tentatively entitled "Thinking about Careers." As we see the course now, it would be an elective offered to all juniors and seniors, although our hunch is that it would probably appeal most of all to those not presently interested in higher education. It would probably run for one term, meet three times a week. for a total of about 40 classroom hours. As we presently conceptualize the course, it would help students examine their career values, assess career skills, learn how to retrieve career information, and do some systematic career planning. It would probably de-emphasize the study of particular careers--and focus on processes instead. All of these notions are very tentative; we need the advice of anyone competent and interested.

Observe that the description is general and the language tentative. The intent is to identify broad boundaries that will be flexible enough to accommodate the ideas of all those who will later be involved in the more detailed planning. And the tentative language clearly suggests that no final decisions have been made.

Develop a Constituency

All curriculum making has a political aspect. Those developing the new course wield power to advance their own interests. While genuinely concerned with improving the education of students, they are also motivated by personal interests: to enhance their reputations, to make their positions more secure, to win the attention of superiors. And those opposed to the course resist for similarly personal reasons. While articulating sincere professional reservations, they are also moved by personal needs. They are jealous of the course developers and resent the attention the developers are receiving. They are worried about the impact of the new course on enrollments in their department. And since resources always seem scarce, they are justifiably concerned about where the money will come from.

For this reason it is important throughout the naturalistic process for course planners to build a constituency for the new course--to mobilize support and neutralize likely opposition. How much time and energy are devoted to such politicking will depend, of course, upon the likely impact of the proposed change and the extent to which the course seems to have broad-based support.

Build the Knowledge Base

Another fundamental step which should be initiated early is building the knowledge base--retrieving and systematizing information about the students, assessing faculty readiness, analyzing the relevant research, and identifying available materials and programs. Too often those using the technological process slight this crucial step: course planners begin with a cursory "needs assessment" of the students, ignore those who will be teaching the course, slight the research, and act as if nothing else has ever been done in the field before. Their subsequent decisions are less effective because they are less informed. The questions listed in Figure 6 can guide the development of the knowledge base. Note that the questions are not intended to be a comprehensive list of all that might be asked. Since local course planners have limited resources, only the most important questions are listed.

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/Insert Figure 6 about here./

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The student questions are designed to help planners understand the constraints imposed by the characteristics of those likely to take the course. In contrast to the usual "needs assessment" which often turns out to be a useless documentation of the obvious ("students need to reflect about their career values"), this component of the knowledge

base reminds developers of the reality they face in implementing the course successfully. Will the course attract less able, unmotivated students? Will many of them have serious reading problems? Will they have trouble understanding abstract concepts?

The teacher questions are intended to guide the developers in deciding how detailed the course planning should be and how much staff development will be required. Comments of the following sort illustrate how the answers might impinge on the planning process:

"We'll have to use teachers not too interested in teaching the course--so we can't expect too much extra time from them."
"This is a new field for most teachers--we'd better be rather explicit as to where to find materials."
"The course will be taught by a few of our most competent people--so we don't need to go into a lot of detail about teaching methods."

The research questions focus on course content and teaching/learning methods. Stated generally here so that they can apply to any new course, they perhaps should be re-phrased more specifically by the planners so that they can be answered more readily. Thus, those developing the career planning course might seek answers to these more specific questions:

*What do we know about the career values of adolescents?
*What do we know about general patterns of career choice? How stable are career decisions?
*What do we know about changing occupational trends?
*What do we know about the skills needed for career decision-making?
*What instructional methods seem to be most effective in developing decision-making skills?

Finally, the questions on "what's available?" help the planners profit from the experience and work of others. If they locate an excellent program developed by a major curriculum center, they may decide to adopt it with modifications. If they examine courses that seem to have been successful in other schools, they can make better decisions about organizing content and selecting learning activities. And if they are able to locate very useful instructional materials, they can give those materials a key place in the units and lessons developed. As will be noted below, sometimes it is useful to find excellent materials first--and then choose objectives to fit the materials.

Block in the Unit

With the knowledge based developed, the next step that should usually be taken is to block in the units--to determine the number and focus of each unit of study that will make up the new course. Note that while the recommended direction is top-down (from general to specific, from unit to lesson), in some cases it might be desirable to reverse the flow: to identify lessons and then cluster lessons into units.

In blocking in the units, planners make tentative decisions about these issues:

1. How many units of study are planned?
2. How many lessons will there probably be in each unit?
3. What is the general objective of each unit?
4. What is the optimal sequence of the units?

One "unit blocking" process that seems to work well in most disciplines is the following one. First, identify the probable number of units by reviewing the course territory and assessing the interest span of the learners. "We're planning a one semester course that will meet three times a week--and many of the learners will probably have a short attention span--so maybe we need about 7-9 units--some two weeks long, some three weeks long."

Then tentatively identify the unit objective for each unit. The unit objective, as the term is used here, is the one general focus of the unit. It might be a theme that ties the lessons together ("getting a broad picture of the changing American family,") an overarching concept that subsumes several more specific concepts ("understanding ethnicity.") or a general skill that embraces many behaviors ("choosing the right college"). At this stage of the planning process, the unit objective can be stated imprecisely--in terms that are not necessarily measurable. And initially the list of tentative unit objectives can be simply a random collection of good ideas, which will later be refined and systematized.

How can the tentative unit objectives be produced? One method that seems to work well is to convene the planning team, review with them the course prospectus and the knowledge base, and then ask, "What do we really want the students to learn?" The discussion that ensues should be somewhat free-wheeling, with the leader accepting any ideas offered. The intent is to develop a somewhat comprehensive list that can next be refined.

Here is a list of the tentative unit objectives that might be produced by those developing the career course:

Understanding your career values.
Learning about your skills and aptitudes.
Thinking about the education you need.
Retrieving and using career information.
Career mobility skills
Matching self and careers
Learning from other people--parents, successful role models
Changing occupational needs
Reading the want ads
Preparing a resume
Different ways of looking at careers--jobs, careers, vocations.

Once the tentative list of unit objectives has been developed, the planning team should review the list in order to refine it. The refining process attempts to reduce the number of unit objectives to match

the number of units previously identified--and to ensure that the final list closely matches the course territory. Questions of the following sort should be asked:

*Which unit objectives might be combined?
*Which unit objectives are of low priority and might be eliminated?
*Which unit objectives are tangential to the central thrust of the course and might be eliminated?

The refining stage is also the best time to make a tentative decision about the number of lessons. In making this decision, the team should reflect about the complexity and importance of the unit and the attention span of the learners, realizing, of course, that the decision is only a preliminary one. Making a preliminary decision at this point in the planning process enables the planners to be sure that they have not listed too many unit objectives; it also provides some information that will be useful when they get to the next stage of planning each unit in detail.

Thus, the team planning the career course might produce a final list like this one, in which both the unit objective and the probable number of lessons are indicated:

Careers, jobs, and vocations--6
Looking at yourself--skills, aptitudes, values--6
Changing occupational needs--6
Retrieving and using career information--9
Matching self and careers--6
Thinking about further education--9
Finding the first full-time job--9

The final step in this stage of blocking out the units is determining the optimal sequence. Those using the naturalistic process ordinarily combine several types of sequence, giving considerable weight to student interest and the rhythms of the school year. They typically ask such questions as the following:

*What unit will quickly capture student attention?
*How does the flow of units match the school calendar?
*Which units will best get them through the doldrums between semester exams and the spring break?
*Which units are most complicated and need some foundation units?
*Which unit would make a strong ending?

Obviously the units in the career planning course could be sequenced in several possible ways, each of which might work for a particular group of students.

Plan Quality Learning Experiences

With the units blocked out, the next stage in the process is planning quality learning experiences--designing a set of learning experiences that will together will lead to the unit objective. It is

at this stage perhaps that the naturalistic process differs most significantly from the standard model; it therefore might be useful at this point to clarify the distinction.

In the technological model, the objectives drive the planning process. They are the starting point of all planning. They determine the activities and influence the choice of materials. The intent is to control the learning process to ensure that a pre-determined end is achieved. And the process is linear and uni-directional. In the naturalistic process the planners attempt to design quality learning experiences--stimulating teaching/learning transactions that will produce several desirable outcomes, some of which might occur serendipitously. They think about the learners--their learning styles, their motivations, their abilities. They keep in mind the unit objective, as the general outcome to be attained--and reflect about the more specific objectives it comprises. They search for excellent materials that will have high interest value and good instructional payoff. They reflect about learning activities that will appeal to the learners, will challenge them to think, will give them an opportunity to be creative.

Sometimes the specific objectives will dominate their thinking, as in the technological approach. Sometimes, however, planners will begin by thinking about materials--and derive an objective from a particularly fine text or film. "I know of an excellent film on career values--let's show it." And often they will begin by thinking about a learning activity, something intrinsically worthwhile regardless of its outcome. "I think it would be a good idea for the students to interview their parents about their career values, just as a way of getting to see their parents in a different light."

Thus, in the naturalistic model, objectives, materials, and activities are all examined in an interactive and recursive manner--as components of a productive learning experience. The intent is to develop plans for productive learning experiences--meaningful learning transactions mediated by the teacher. Such productive learning experiences should meet several important criteria:

1. The learning experience is meaningful--it provides an opportunity for students to discover meaning, to make sense of their experience, to integrate knowledge.
2. The learning experience is involving--its nature is such that it is likely to involve all students, not just a few, in the active processing of experience. Some of that active processing will be mental--and perhaps not always observable--but it will not be a passive receiving of information.
3. The learning experience is multiple--it requires the use of several talents and skills.
4. The learning experience is challenging--it requires the students to acquire new information--but also to process that information, to synthesize it, to apply it, and to create new forms.
5. The learning experience is appropriate--for both the context (the school classroom) and the participants (the students and the teacher).

6. The learning experience is relevant--it relates to the unit objective. It is not included simply because it is interesting.

In many cases it will be desirable to specify more quality learning experiences than the number of lessons seem to call for. Doing so will give teachers some options, enabling them to select learning experiences that would appeal to their students and capitalize upon their teaching strengths. After the planning team has developed a comprehensive list of quality learning experiences, they should review them critically against the criteria specified above. Any experiences which do not meet those tests should be eliminated.

Observe, finally, that this process of identifying quality learning experiences does not preclude objectives-based planning. If, because of the nature of the discipline or their own curricular orientation, planners prefer to start with objectives, they may do so.

Develop the Course Examination

The naturalistic process places less emphasis on assessment. Rather than developing in advance several detailed assessment devices, course planners ensure that teachers are given the staff development needed to make their own on-going assessments. However, a final course examination is usually included, both to help teachers make a summative assessment and to aid administrators in aligning the curriculum.

Develop the Learning Scenarios

Instead of using the standard curriculum guide, the naturalistic process culminates in the production and dissemination of learning scenarios for each unit of study. A learning scenario, as the term is used here, is a more flexible and open-ended guide to assist the teacher in implementing th new course. It includes for each unit these components:

1. A clear and detailed statement of the unit objective.
2. Suggested number of lessons.
3. A list of recommended quality learning experiences, phrased in a way that integrates objectives, activities, and materials.
4. Reprints of articles, maps, and photographs that teachers could use in making lesson plans. Observe that resources are not just listed--they are included.

An example of a learning scenario is shown in Figure 7.

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/Insert Figure 7 about here./

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The Naturalistic Model Summarized

The naturalistic model is characterized by several features which set it off from the technological model. It is looser, more flexible, and less rational, with many attributes of what has been called "disjointed incrementalism." It is more responsive to the political

realities of curriculum making. It tends to be a "top-down" process, moving from the larger unit to the smaller lesson. It seems to be more in accord with the way teachers actually plan. And it gives equal weight to objectives, activities, and materials, rather than giving primary attention to objectives.

Its advantages seem clear. It should result in curricula that are more likely to be implemented, rather than shelved. Since it addresses the political reality of schools and since it is in accord with teachers' actual planning styles, it should have greater appeal to both principals and teachers. And it should result in more interesting and challenging learning experiences, since it emphasizes the intrinsic quality of the experience.

Its main drawback is its looseness. Especially in the hands of the inexperienced, it can result in a seemingly random collection of entertaining activities that seem unrelated to the intended outcomes.

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Figure 1. Descriptors for Analyzing Prescriptions for Curriculum Development

1. What groups or constituencies should be represented in the developmental sessions?
2. What type of participation structures are recommended for the sessions--monologic, participatory, dialogic?
3. What shaping factors should receive significant consideration throughout the process?
4. Which curriculum element should be used as the starting point in the substantive deliberations?
5. Which curriculum elements should receive significant consideration--and in what sequence should such consideration occur?
6. Which organizing structures should receive significant consideration--and in what order: course structure, units, lessons, lesson components?
7. Should the progression from element to element or structure to structure be predominantly linear or recursive?
8. What curriculum images and metaphors seem to influence the process?
9. What general type of problem-solving approach should be used throughout the process--technological, intuitive, negotiating?
10. What recommendations are made about the form and content of the curriculum product?
11. What recommendations are made for implementing the curriculum product?
12. What recommendations are made for assessing the curriculum product?
13. What criteria should participants use to assess the quality and effectiveness of the process?
14. To what extent should developers be sensitive to the political aspects of curriculum development?

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Figure 2. Shaping Factors in Curricular Deliberations

1. The developers: their espoused and practiced values; their knowledge and competence.
2. The students: their values, abilities, goals, learning styles.
3. The teachers: their values, knowledge, teaching styles, concerns.
4. The organization: its ethos and structure.
5. The administrators of that organization: their values and expectations.
6. External individuals and groups (parents, employers, pressure groups): their values and expectations.
7. Accrediting bodies: their requirements and recommendations.
8. Scholars in the field: their recommendations, their reports of research; their perceptions of the structure of that discipline.
9. The community and the larger society: what is required to maintain or change the social order.
10. Other courses in that field of study, courses taken previously and subsequently.
11. Courses in other fields which students are likely to take concurrent with the course being developed: their content, impact, and requirements.
12. The schedule for the course: number of meetings; length of meetings; frequency.
13. Accountability procedures: examinations, "curricular audits."

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Figure 3. Curricular Elements

1. Rationale, philosophy, or statement of espoused values.
2. Institutional goals or aims.
3. Knowledge outcomes for the course, the units, the lessons: concepts, factual knowledge.
4. Skill or process outcomes for the course, the units, the lessons.
5. Affective outcomes for the course, the units, the lessons: values, attitudes.
6. Content choices: elements of subject matter selected for their intrinsic worth (literary or artistic works, periods of history, important individuals, significant events, etc.)
7. Organizing elements: themes, recurring concepts, structures of linkage:
    a. Those used to link this course with courses previously or subsequently studied
    b. Those used to link this course with other courses studied concurrently.
    c. Those used to link units in this course with each other.
    d. Those used to organize units and relate lessons in a unit to each other.
8. Teaching/learning activities.
9. Instructional materials and media.
10. Time allocations.
11. Methods for assessing student learning.

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Figure 4. Analysis of Doll's (1986) Curriculum Development Process

1. Groups represented: teachers, pupils, administrators, supervisors, school board, lay community.
2. Participation structure: participatory.
3. Shaping factors: organizational ethos; pupil needs; teachers' values, knowledge, teaching style, concerns.
4. Starting point: institutional goals.
5. Elements considered: goals; course objectives; evaluation means; type of design; learning content; inter-unit linkages; inter-lesson linkages.
6. Organizing structures: not specified.
7. Progression: linear.
8. Images and metaphor: not used.
9. Problem-solving approach: rational.
10. Form and content of product: no specific recommendations.
11. Implementation recommendations: no specific recommendations.
12. Recommendations for evaluating product: extensive formative and summative assessments.
13. Criteria in assessing process: eleven specific criteria offered.
14. Political sensitivity: limited.

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Figure 5. Analysis of Glatthorn's (1986) Curriculum Development Process

1. Groups represented: teachers.
2. Participation structure: dialogic.
3. Shaping factors: students; teachers; administrators; scholars; other courses; schedule.
4. Starting point: knowledge and skill outcomes for course; starting point for unit planning varies.
5. Elements considered: knowledge and skill outcomes for units and lessons; unit themes; teaching/learning activities; instructional materials and media; time allocations; student assessment.
6. Organizing structures: units, lessons.
7. Progression: recursive.
8. Images and metaphors: not used.
9. Problem-solving approach: intuitive.
10. Form and content of product: open-ended "scenarios."
11. Implementation recommendations: no specific recommendations.
12. Recommendations for evaluating product: emphasis on quality of learning experiences.
13. Criteria in assessing process: none provided.
14. Political sensitivity: extensive.

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Figure 6. Questions to Answer in Building the Knowledge Base

THE STUDENTS

Consider the students likely to take the course and find out...

1. What is the IQ range?
2. What levels of cognitive development are represented?
3. What is known about their academic achievement?
4. What are their predominant values and attitudes?
5. What similar learning experiences have they had before?

THE TEACHERS

Consider the teachers likely to be assigned to the course and find out...

1. How interested are they in teaching the course?
2. How much do they know about the content likely to be covered by the course?
3. How effective are they as teachers?

THE RESEARCH

Consider the course territory and find out...

1. What research is available that will help planners determine course content?
2. What research is available that will help planners select teaching/learning activities?

WHAT'S AVAILABLE

Consider the course territory and find out...

1. Have similar courses been developed by national curriculum centers?

2. Have similar courses been offered by other schools?

3. What materials (texts, films, video-tapes, computer software) are readily available in the field?

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Figure 7. Learning Scenario: Self Understanding and Career Planning

Course: Career Planning

Unit objective: At the end of the unit it is hoped that the students will have a clearer sense of their talents, skills, and values as they relate to the career planning process. The goal is to help students become somewhat more realistic as they think about careers--but not to box themselves in or aim too low. Keep reminding them that weak talents can be developed, that new skills can be acquired, that values change with age and experiences.

Suggested number of lessons: 6-8

Quality learning experiences: (These are listed in what seems to be a desirable sequence, but you should feel free to modify the order as you see fit.)

1. Have students write a paper which they could share with peers, parents, and counselors on "My Ideal Career." Provide some good pre-writing discussion and allow time for revision. This is a good initiating activity; the paper will provide you and the student with some baseline data--how the student thinks about self and careers before the unit starts.

2. Conduct a discussion of the nature of talents (the general aptitudes that we possess, like a talent for music), skills (specific career-related behaviors we have mastered, like being able to use a word processor), and values (those aspects of life we consider worthwhile,

such as liking to be outdoors). Emphasize: people have multiple talents and skills; the strength of those talents and skills vary for each individual; while all talents and skills have intrinsic worth, our culture accords them varying merit; all of us have different values as they relate to careers.

3. Help students analyze test scores and grades as a way of understanding themselves. If possible, ask the guidance counselor to prepare a test and grade profile for each student and to discuss the uses and limitations of test scores and school grades in assessing talents, skills, and values.

4. Have each student develop a talent profile. Identify the range of talents people possess--mechanical, verbal, mathematical, scientific, musical, physical, artistic, interpersonal, managerial. Chart your own highs and lows on the profile, to illustrate that talents are differentially strong in one individual.

5. Help each student develop a skills inventory. Most students will probably believe that they have few career-related skills. Help them reflect about their part-time jobs, their school experiences, their community experiences as sources of skills that can be used in a job.

6. Ask students to interview one or both parents about parental career values. Emphasize that the goal here is not to intrude on parents' privacy (the results will not be shared with classmates or the teacher)--but to get a broader understanding of parents and to see whether parent values have influenced student values. Stress that most studies show similarities between core values of parents and children. Teach students how to conduct a supportive interview, one that helps the interviewee be reflective about self. The students should probably

summarize the results of the interviews in their journals, only to systematize what they know--but these summaries need not be shared with the teacher. You may wish to check just be sure that they were written.

7. Arrange for students to take the values section of the program called SIGI (System of Interactive Guidance and Information). This is a software program produced by Educational Testing Services and available in the guidance office, which gives students some useful information on their career values. The results will need some discussion in class.

8. As a culminating activity, ask students to write a final paper on the topic, "Seeing myself in relation to careers." They'll probably need some pre-writing help in organizing all the information they have collected. This will also provide a good opportunity for teaching students how to present information in a table or figure--and how to integrate tables, figures, and text.

9. As an enrichment activity for those with special interests in the subject, discuss how culture shapes career values. Ask them to speculate about the career values of an Eskimo and those of an urban factory worker.

Additional resources: You'll find in the following pages some resources you might find helpful: a recent article on parent and teen values; an article by Calvin Taylor on talent profiles; a review of Howard Gardner's work on multiple intelligences; and an excerpt from a recent book on the work values of Soviet citizens.